

and others can then judge as well as themselves of the applicability of the cases cited as authorities.

They quote from an article on springs, &c. by M. Arago, published in the appendix of a report on introducing pure water into the city of Boston by Loammi Baldwin Esq. civil engineer.

"According to Mariotte the Seine every year carries to the sea only a *sixth* part of the water that falls into its basin in the shape of rain, dew, and snow. The other five-sixths then, must either be evaporated so as to form clouds or be imbibed by the soil for the nourishment of the vegetation, or lastly, must penetrate through the fissures of the rocks into the interior reservoirs whence the springs issue. The calculations of Marriotte have been recently repeated from more accurate data, especially in what relates to the guaging of the seine, and we shall now present the conclusions. Thus the volume of water which annually passes *under the bridges of Paris*, is not much above a *third* of that which descends in rain into the basin of the Seine. *Two thirds* then of this rain either re-ascends into the atmosphere in the way of evaporation, or supports vegetation, and the life of animals, or finds its way into the sea by subterranean communications."

Sutcliffe says, when speaking of the reservoirs of the Rochdale canal and of the country, the drainage from which feeds them. "There are few commons in the kingdom from which so much downfall water may be collected. The highest part of Blackstone edge being elevated nearly fifteen hundred feet above the level of the sea, the clouds frequently break in passing over it, and the surface principally consisting of black peat turf of close texture, holds water surprisingly well.

"Those commons that consist of loose sand and gravel, afford little downfall water, for it will be nearly all absorbed and dried up; and but a small quantity of downfall water can be collected from enclosed lands, for the grass land retains the greater part of it, and that under the plough will nearly absorb the whole.

"The average depth of rain that has fallen upon Blackstone edge for the last four years, I am informed, is nearly thirty-six inches, yet not more than about one-third of it can be got into the canal, though the reservoirs hold exceedingly well, the remainder is lost in leakage, soakage,